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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503

JUN 17 2009

In Reply Refer To:
13410-2009-I-0220

Mark G. Eberlein, Regional Environmental Officer
FEMA, Region X
U.S. Department of Homeland Security
130 228th Street, SW
Bothell, Washington 98021

Dear Mr. Eberlein:

Subject: Fourteen Common Disaster Activities Programmatic Biological Assessment

This letter is in response to your request for informal consultation on the Fourteen Common Disaster Activities Programmatic Biological Assessment, Washington. Your letter and enclosed Programmatic Biological Assessment (PBA), dated March 30, 2009, and received in our office on April 1, 2009, requests the U.S. Fish and Wildlife Service (FWS) concurrence with the determination of "may affect, not likely to adversely affect" for the marbled murrelet (*Brachyramphus marmoratus*), northern spotted owl (*Strix occidentalis caurina*), bull trout (*Salvelinus confluentus*), and bull trout designated critical habitat. The proposed action applies to the state of Washington, west of the cascades crest and is proposed for a period of 5 years. This informal consultation has been conducted in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

We requested additional information and clarification regarding the proposed action and received a final revised PBA via email on May 22, 2009. Additional modifications to the PBA were proposed by the FWS via email on June 8, 2009, and agreed to by Federal Emergency Management Agency (FEMA) via email on June 9, 2009.

DESCRIPTION OF THE PROPOSED ACTION

Proposed Activities Covered Under this Programmatic Consultation

The PBA is proposed to cover the following activities that may be funded by the FEMA under the Stafford Act, PL-93-288. These activities may be associated with disasters such as earthquakes, floods, strong winds, and slides. The PBA addresses species under the jurisdiction of both the National Marine Fisheries Service (NMFS) and the FWS (jointly the Services).

The following 14 activities are proposed under the PBA:

1. Organic Debris Removal
2. Mineral Debris Removal
3. Anthropogenic and Animal Debris Removal
4. Spawning Channel Restoration and Gravel Replacement
5. Piling Repair and Replacement
6. Dewater and Water Diversion
7. Recreation Structure Repair
8. Wave and Seawall Repair
9. Minor Revetment Repair
10. Road, Sidewalk, and Trail Repairs
11. Bridge and Abutment Repairs
12. Stormwater System Repairs
13. Building Elevation
14. Building Acquisition and Removal

The following activities or specific actions proposed under these activities are not included as part of this consultation with the FWS due to the potential for adverse affects to listed species and/or their critical habitat. Projects proposing these activities require individual consultation with the FWS.

- Activity 5 - Piling Repair and Replacement: Impact pile driving of steel piles within marine waters is excluded from this programmatic to avoid potential adverse effects to marbled murrelets.
- Activity 6 - Dewater and Water Diversion: Due to the potential for fish handling and stranding, Activity 6 is not covered under this programmatic consultation. This activity would require formal consultation for bull trout under the Act.

Activity Descriptions

The following provides a more detailed description of the activities included in the proposed action. Activity 6 is not included because it is not covered by this programmatic. In addition to the proposed activities, conservation measures are proposed to minimize impacts to listed species. Some conservation measures apply to all activities,

while others are activity-specific. These conservation measures are provided following the description of the proposed activities.

Activity 1 - Organic Debris Removal

This activity proposes to remove loose organic debris from culverts, bridges, road/trailside ditches, levee systems, boat ramps, and constructed and maintained channels. Debris may be removed during or after the disaster event during high velocity and turbid conditions to prevent further flooding or damage to surrounding structures. All organic debris that is removed will remain in the system, unless this would jeopardize downstream in-water structures. The debris is allowed to continue downstream, stockpiled for use as a habitat-forming feature at a later date, or disposed of at a disposal site. Small organic debris consists of twigs, leaves, and bushes. Large organic debris includes tree trunks, root wads, and branches. See Table 1 for the list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations. The permanent removal of large woody debris (LWD) from the stream segment is limited to one action per structure in bull trout key recovery habitat and bull trout critical habitat.

Table 1. Organic debris removal and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Culvert - Small Debris	To remove debris, first check downstream drainage systems to determine if downstream system would be in jeopardy of repeated culvert plugging if debris was allowed to continue through the system. 1. If acceptable, move debris using hand tools or necessary equipment to the downstream end of culvert. Allow the material to continue migrating through the drainage system. 2. If debris may jeopardize downstream drainage structures document analysis of re-introducing debris into drainage. Remove debris using hand tools or power equipment (vac-truck, back-hoe) and dispose by one of the following methods: a. Leaving small woody debris along the bank above the potential flood level. b. Chipping/shredding and spreading within road right-of-way above potential high water level. c. Haul debris to existing site for processing for compost, or dispose at permitted site/facility.	CM-1 CM-32

Facility Type	Proposed Repairs	Conservation Measures
Culvert - Large Debris	To remove debris, first check downstream drainage systems to determine if downstream system would be in jeopardy of repeated culvert plugging if debris was reintroduced into the drainage system. 1. If acceptable, move debris using hand tools or power equipment to the downstream end of the culvert. Allow the debris to continue migrating through the system. 2. If the debris may jeopardize downstream structures, document analysis of re-introducing debris into drainage and remove debris. Stockpile (at an existing site) for later placement at watershed restoration sites (*these watershed projects are not included in this consultation - separate consultation and permits may be required*).	CM-1 CM-32
Abutment/Bridge - Large Debris	To remove debris, first check downstream drainage systems to determine if downstream system would be in jeopardy of repeated culvert plugging if debris was reintroduced into the drainage system. 1. If acceptable, move debris using hand tools or power equipment to the downstream end of the culvert. Allow the debris to continue migrating through the system. 2. If the debris may jeopardize downstream structures, document analysis of re-introducing debris into drainage and remove debris. Stockpile (at an existing site) for later placement at acceptable watershed projects (*these watershed projects are not included in this consultation - separate consultation and permits may be required*).	CM-1

Facility Type	Proposed Repairs	Conservation Measures
Roadside Ditch	Small Debris - Remove debris using hand tools or power equipment (vac-truck, back-hoe), and dispose by: 1. Leaving small woody debris along the bank above the potential high water level, 2. Chipping/shredding and spreading within road right-of-way above potential high water level, 3. Haul debris to an existing site for processing for compost, or 4. Dispose at permitted site/facility. Large Debris - Remove debris and stockpile (at an existing disturbed site) for later placement at acceptable watershed projects (*these watershed projects are not included in this consultation - separate consultation and permits may be required*). Large woody debris that is not in proximity of a stream (within 300 ft) does not need to be stockpiled. However, it is recommended that this material be stockpiled for future watershed projects.	CM-1 CM-32
Levee Systems - Large Debris	Remove debris by hand or power equipment by picking up the debris and placing into the water body.	
Recreation Facilities (Including: Boat Ramps, Active Areas, Paths, Restrooms, Access Roads and Parking Areas)	Remove debris by hand or power equipment by pushing into water body using the boat ramp. Material that cannot be pushed into the water along the boat ramp will be picked up and placed into the water body at a downstream location.	CM-16

Facility Type	Proposed Repairs	Conservation Measures
Constructed Channel	To remove debris, first check downstream drainage systems to determine if downstream system would be in jeopardy of repeated accumulation problems or culvert plugging if debris was reintroduced into the drainage system. 1. If acceptable, move debris using hand tools or power equipment to an acceptable downstream location and allow the debris to continue migrating through the drainage system. 2. If the debris may jeopardize downstream structures, remove debris: • Small Debris - Remove debris using hand tools or power equipment (vac-truck, back-hoe) and dispose by: a) Leaving small woody debris along the bank above the potential high water level, b) Chipping/shredding and spreading within road right-of-way above potential high water level, c) Haul debris to existing site for processing for compost, or d) Dispose at permitted site/facility. • Large Debris - Remove debris and stockpile (at existing disturbed site) for later placement at acceptable watershed projects (*these watershed projects are not included in this consultation - separate consultation and permits may be required).*	CM-1 CM-16 CM-32

Activity 2 - Mineral Debris Removal

Mineral debris includes soil particles such as gravel, sand, silt, and sediment which may cause flooding, road overtopping, diminished storage capacity, traffic hazards, degradation of habitat, and erosion. Mineral debris collects in culverts, road/trail surfaces, road/trailside ditches, recreation facilities (including boat ramps, parking areas, and parks), and constructed and maintained sediment collection basins and channels. Mineral debris may be removed during or

after the disaster event during high velocity and turbid conditions. Removal of mineral debris only applies to material accumulated as a result of the disaster event; it does not include the removal of additional pre-existing material or substrate (except for minor inadvertent over-excavation or creation of a temporary material pit at the downstream end of the structure). Mineral debris is generally collected and hauled to the jurisdiction's designated storage facility for characterization, sorting, recycling, or disposal. See Table 2 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations. The instream creation of a catchment pit in or within 600 feet upstream of key or critical habitat for bull trout is not covered under this programmatic

Table 2. Mineral debris removal and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Culvert, Road/Trailside Ditch, Road or Trail Surface, Stormwater facilities and Sediment Basins Recreation Facilities (Including: Boat Ramps, Active Areas, Paths, Restrooms, Access Roads and Parking Areas), and Constructed Channel	Remove debris accumulations by hand or power equipment to pre-disaster condition or design shape.	CM-1 CM-18

Activity 3 - Anthropogenic and Animal Debris Removal

The proposed activity is to remove anthropogenic and animal debris. Anthropogenic and animal debris is anything created by humans (garbage and construction material) or animals (waste and carcasses) that collect in culverts, road/trail surfaces, road/trailside ditches, levee systems, boat ramps (including parking areas), and/or constructed and maintained sediment collection basins and channels. This activity generally occurs in conjunction with Organic and Mineral Debris Removal. Anthropogenic and animal debris is separated, hauled, and disposed at an appropriate facility based on debris classification. Work would occur during or following the disaster event when turbidity levels are still high. Occasionally, jurisdiction Road Maintenance or Solid Waste Units are tasked with removing animal carcasses from rivers and floodplains and hauling to acceptable disposal facilities. See Table 3 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this activity applies to freshwater and marine water locations.

Table 3. Anthropogenic and animal debris removal and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Culvert	Remove debris accumulations by hand or power equipment (back-hoe, "vactor truck," or rendering truck) to pre-disaster or design depth. Haul debris to approved disposal site.	CM-1 CM-33
Road/Trailside Surface/Ditch, Sediment Basins, Retention Systems, and Constructed Channels, Recreation Facilities (Including: Boat Ramps, Active Areas, Paths, Restrooms, Access Roads, and Parking Areas)	Remove debris accumulations by hand or power equipment (back-hoe, grader, "Ditch-Master," "vactor truck," or rendering truck). Haul debris to approved disposal site.	CM-1 CM-33
Levee Systems	Remove debris accumulations by hand or power equipment (back-hoe, grader, "Ditch-Master," "vactor truck"). Haul debris to approved disposal site.	CM-1 CM-33

Activity 4 - Spawning Channel Restoration and Gravel Replacement

This activity is to restore previously constructed spawning channels and fish habitat restoration sites through the removal of debris (if necessary) and placement of gravel to repair/replace spawning areas at restoration sites. Placement of gravels will occur after the disaster event during the approved in-water work window. Projects involving more than 25 cubic yards (cy) of material will require individual consultation. Occasionally a temporary access road will be constructed or re-established. Impacts to native woody vegetation will be confined to the minimum necessary to perform the work. Removal of trees greater than 4 inches diameter breast height (dbh) and/or vegetation grubbing (other than noxious and invasive non-native vegetation) within 300 ft of key and/or critical habitat for bull trout require an individual consultation. Disturbed areas will be replanted with native vegetation. See Table 4 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations.

Table 4. Spawning channel restoration and gravel replacement and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Designed, Constructed, and Maintained Channel	1. Prepare temporary access route, if necessary. 2. Remove debris, if present, (see Activity 1). 3. Grade area to previous design configuration. 4. Place approved substrate and grade using hand tools (no more than 25 cy) waterward of Ordinary High Water Mark (OHWM). Approved substrate includes, but is not limited to: pea gravel (less than 3/8-inches), sand, and spawning gravel. 5. If a temporary access is created, the access will be revegetated.	CM-1 CM-2 CM-10 CM-13 CM-29

Activity 5 - Piling Repair and Replacement

This activity includes repairing or replacing damaged (or environmentally threatening) pier/dock piling along or in rivers, lakes, and nearshore marine waters. Work will occur after the emergency event during the approved work window. See Table 5 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater and nearshore marine waters.

Table 5. Piling repair and replacement and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Piles	Splice and repair partially damaged, broken, or leaning existing pile: 1. Remove damaged portion of pile. 2. Secure a new top or stub-pile with the same diameter. 3. If damaged pile is creosote treated, remove pile (if impossible to remove cut 2 ft below mud line) and dispose at an approved facility. Render the damaged or creosote treated pile unusable by cutting it into 4-ft lengths and dispose of at an approved facility. 4. Replace pile with ACZA treated wood, steel, or cured concrete.	CM-1 CM-4 CM-5 CM-11 CM-12 CM-20 CM-26 CM-28 CM-33
	Replace existing completely damaged or missing pile, or pile treated with creosote 1. Extract the damaged pile using a crane, backhoe, or vibratory driver. All large equipment will be operated from upland or a barge. 2. If the pile cannot be removed, cut 2 ft below mud line. 3. Render the damaged or creosote-treated pile unusable by cutting it into 4-ft lengths and dispose of at an approved facility. 4. Install new piles using impact (excluding steel piles) or vibratory pile driver. Appropriate replacement material includes concrete piles less than 24-inches in diameter, steel piles less than 12-inches in diameter, and wood piles any diameter.	CM-1 CM-4 CM-5 CM-11 CM-12 CM-20 CM-26 CM-28 CM-33

Activity 7 - Recreation Structure Repair

The repair of structures associated with watercraft and recreation activity including boat ramps, docks, buoys, parking areas, restrooms, picnic areas/facilities, and playground equipment. The repair and/or replacement of piling associated with piers and/or docks will be performed under Activity 5 (Piling Repair and Replacement).

Applicability: The PBA for this Activity applies to freshwater and marine water locations. Repair or replacement of asphalt boat ramps are not covered by this programmatic.

Table 6. Recreation structure repair and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Boat Ramp	1. All repair and replacement activities will occur during the approved in-water work window 2. Remove damaged pavement and boat ramp panels, and stockpile in upland. 3. Remove and dispose of debris at an upland facility. 4. Grade sub-base, if necessary, to previous design configuration. 5. Replace and shape gravel. 6. Replace pre-cast concrete panels or pavement.	CM-1 CM-2 CM-4 CM-13 CM-14 CM-22 CM-33
Floats, Piers, Docks	1. Remove and replace damaged facility components (piles, decking, caps, stringers, bracing, and/or connecting hardware). 2. Replace decking with grated material.	CM-1 CM-2 CM-4 CM-11 CM-12 CM-14 CM-28 CM-33
Mooring Buoy	1. Remove damaged material (buoy, hardware, lines, or anchors), and dispose at a permitted facility. 2. Replace helical anchor or if substrate is too hard, use a 5-gallon bucket (or larger) filled with cured concrete. Design concrete bucket anchor to avoid dragging. 3. Replace plastic coated Styrofoam ball buoy. 4. Replace connecting hardware - steel rod, anchor attachment, and hardware for boat moorage. 5. Replace anchor lines. 6. Ensure anchor lines will not drag and disturb substrate or aquatic vegetation.	CM-1 CM-2 CM-4 CM-11 CM-14 CM-23 CM-24 CM-25 CM-28 CM-33

Activity 8 - Wave and Seawall Repair

The proposed action includes the repair of wave wall and seawall components located near or along nearshore areas. Damage includes individual rocks that are displaced or missing, walls that are leaning, or individual panels that have toppled. Repairs generally consist of replacing or realigning large rocks and concrete panels. Repairs will not extend beyond 10 percent of the wall or 50 linear ft. Reclaiming areas eroded by the disaster event is not included as part of the proposed action. All work will occur after the disaster in the dry, during low tide. See Table 7 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to marine water locations.

Table 7. Wave and seawall repair and activity specific conservation measures.

Facility Type	**Proposed Repairs**	**Conservation Measures**
Rock Walls	One or more of the following actions: 1. Pick individual fallen rock from beach area and place back on wall. 2. Replace displaced or missing rocks. 3. Nestle rock along the wall to fill interstitial spaces.	CM-1 CM-2 CM-4 CM-7 CM-15 CM-30 CM-33
Concrete Walls	One or more of the following actions: 1. Reposition wall to pre-disaster alignment. 2. Replace damaged panels. 3. Repair panels in place. 4. Pour new concrete panels in place. 5. Backfill eroded soil material.	CM-1 CM-2 CM-4 CM-7 CM-14 CM-30 CM-33

Activity 9 - Revetment Repair

Repair revetments and bank stabilization features along watercourses, including roadside ditches. Damage to bank or stabilization features resulted from erosion; missing vegetation; dislodged, missing, or misaligned LWD; and/or missing surface layer of rock where sub-base native soils are not exposed. Work may occur during or after a disaster event when turbidity levels are still high. The placement of missing rock along the bank is limited to areas that were previously armored and where sub-base native soils are not exposed. Repairs will not exceed the footprint of previously armored bank. Excavation is not covered by the programmatic for this activity. Reclaiming areas eroded by the disaster event is not included as part of the proposed action. See Table 8 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations.

Table 8. Revetment repair and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Natural Slopes, Vegetated Banks, Rock Riprap, and/or LWD.	Assess damages and perform appropriate repairs such as planting native vegetation, installing LWD, and replacing missing rock to pre-existing conditions.	CM-1 CM-2 CM-3 CM-7 CM-10 CM-15

Activity 10 - Road, Sidewalk, and Trail Repairs

The repair of road and trail structures includes clearing roadside and trailside ditches, repair or replacing culverts, removing slide material, and repairing or replacing traffic control features. This activity does not include repairs of eroding banks, sloughing, and/or slide of a road or trail structure adjacent to or in a watercourse when fish are present. See Table 9 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations.

Table 9. Road, sidewalk, and trail repairs and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Road/Trail Structure	To restore the road structure: 1. Remove and dispose damaged material at an upland facility. 2. Grade and shape surfaces to prepare for repairs and reconstruction. 3. Place compact fill material (embankment, sub-base, base course). 4. Place and finish travel surface, shoulders, curb, and sidewalk.	CM-1 CM-3 CM-4 CM-10 CM-15
Roadside Ditch	To restore the ditch: 1. Remove and dispose of damaged material. 2. Grade and shape surfaces to prepare for repairs and reconstruction. 3. Place compact fill material to restore ditch to original grade and alignment. 4. Replace stabilization features (See Activity 9).	CM-1 CM-3 CM-4 CM-7 CM-10 CM-15 CM-30

Facility Type	Proposed Repairs	Conservation Measures
Culvert	Repair Repair damaged sections of the culvert or features in place, or remove and replace damaged portions.	CM-1 CM-3 CM-4 CM-8 CM-10
Culvert	Replacement 1. Design replacement culvert to be "fish friendly" and meet current capacity standards. 2. Remove damaged culvert and road structure features. 3. Excavate, grade, and shape area. 4. Place bedding material. 5. Install new culvert and associated features.	CM-1 CM-3 CM-4 CM-8 CM-10
Traffic Control Features	1. Isolate the work area from traffic. 2. Repair features "in-place" or remove and dispose of damaged features. 3. Replace damaged features.	CM-10

Activity 11 - Bridge and Abutment Repairs

The proposed action includes the repair or replacement of minor bridge components such as abutments, approach embankments, piers, footings, decking, travel surface, guardrails, and handrails over or adjacent to watercourses. The damage to bank or stabilization features is considered minor and may include surface erosion; missing vegetation; dislodged, missing or misaligned LWD; and missing surface layer of rock where sub-base native soils are not exposed. The placement of missing rock is limited to areas that were previously armored and where sub-base native soils are not exposed. Repairs will not exceed the footprint of previously armored abutment. Repairs may include vegetative plantings, installation of LWD, and/or replacement of riprap and ecology blocks. Work may occur during or after a disaster event when turbidity levels are still high. No excavation is permitted below the OHWM. The proposed activity does not include major component repairs or replacements such as rock riprap for scour protection at pier footings, abutment, or bridge replacements. See Table 10 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations.

Table 10. Bridge and abutment repair and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Bridge Superstructure Maintenance and Repair	1. Remove damaging debris (See Activity 1). 2. Repair or replace structural and support elements. 3. Repairs may occur above water, but there is no in-water work	
Abutments	1. Assess damages and perform appropriate repairs such as planting native vegetation, installing LWD, and replacing missing rock to pre-existing conditions.	CM-1 CM-2 CM-3 CM-7 CM-10 CM-14 CM-15 CM-16
Support Piers and Footings	Replace individual scour protection pieces with equipment operating from bridge or work platforms. This activity applies only to those waterbodies not identified as bull trout key recovery habitat. Activities located in areas identified as bull trout key recovery habitat must be consulted on separately with FWS.	CM-1 CM-2 CM-3 CM-4 CM-15
Bridge Approaches	Replace and compact road fill, driving surfaces, guardrails, and traffic control devices to pre-disaster condition. No in-water work is proposed.	CM-10

Activity 12 - Stormwater System Repairs

Repair or replace stormwater system components. Stormwater systems are publicly owned, operated, and maintained facilities located within right-of-ways, dedicated tracts, or easements. Repairs or replacements will not result in an increase in discharge quantity or change (degradation) in water quality or timing of discharge. Work may occur during the disaster event when turbidity levels are still high. Repairs do not require a Washington Department of Fish and Wildlife (WDFW) Hydraulics Project Approval nor U.S. Army Corps of Engineers authorization. See Table 11 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations that do not occur within fish bearing waterbodies.

Table 11. Stormwater System repairs and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Enclosed pipes, man-holes, catch basins, retention and detention inlets and outlets, and pump stations	1. Repair or reinforce eroded areas. 2. Remove and dispose debris. (See Activities 1, 2, and 3). 3. Repair or replace pipes or structures. 4. Repair or replace components.	CM-4
Open designed, constructed, and maintained ditches, swales, channels, canals, and retention and detention wetlands	Remove and dispose debris. (See Activities 1, 2, and 3).	CM-4

Activity 13 - Building Elevation

This activity proposes to elevate flood prone structures to reduce/eliminate repetitive damages to the structure and its contents. Elevation techniques exclude the use of fill material. Structures sited within or over waters of the State are not included in this programmatic and should be considered for Building Acquisition and Removal (Activity 13). See Table 12 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations.

Table 12. Building elevation and activity specific conservation measures.

Facility Type	Extent of Damages	Proposed Repairs	Conservation Measures
Building	Damaged structure and contents due to flooding.	Elevate structure to be above a designated flood level, but at least the 100 year flood level. Flood proofing techniques such as withstanding flood forces from lateral, buoyancy, debris impacts; installing electrical outlets, switches, and fixtures above flood level; and, securing septic systems will be included in the design. The elevation will be accomplished without the use of fill material.	CM-6 CM-7 CM-31

Activity 14 - Building Acquisition and Removal

This activity includes the FEMA funded purchase of flood prone/damaged buildings by local jurisdiction. The buildings are demolished and removed, utilities removed, on-site septic systems abandoned or removed, and the site rehabilitated (including placing material to fill depressions created as a result of structure/foundation removal, grading/leveling, and planting native vegetation). Buildings to be removed may have fallen into streams or occur in floodplains. Buildings that have not fallen into waters of the State may be removed at any time. Buildings that are within the wetted channel should be removed during the low flow season, unless removal is necessary for safety reasons or to prevent resource damage and/or impacts to water quality. Removal of structures within the wetted channel would occur during or following the disaster event when turbidity levels are still high. The vacant property becomes permanent "Open Space" under control of the local jurisdiction. See Table 13 for list of facilities covered and activity specific conservation measures.

Applicability: The PBA for this Activity applies to freshwater locations. This PBA does not include removal of buildings/structuress that have fallen into streams that are bull trout critical habitat or bull trout key recovery habitat. Projects in these areas will require individual consultation with FWS.

Table 13. Building acquisition and removal and activity specific conservation measures.

Facility Type	Proposed Repairs	Conservation Measures
Building/Structure	Local jurisdiction, supported by FEMA funding purchases and demolishes the building, removes utilities, abandons on-site septic system, and rehabilitates site. Removal of structure or portions of structure from waterbody will be accomplished by operating equipment and truck from "top of bank." The property becomes permanent "Open Space" and remains under local jurisdiction control.	CM-4 CM-10 CM-31

Conservation Measures

The following tables include the conservation measures that apply to all actions (Table 14) and those that are activity-specific (Table 15) implemented under the programmatic.

Table 14. Conservation measures that apply to all actions proposed under the FEMA programmatic.

Type	CM No.	Conservation Measure Description
Best Management Practices (BMPs)	CM-i	Perform "Emergency Response Notifications" before initiating actions.
	CM-ii	Obtain all required local, state, tribal, and Federal permits and/or authorizations prior to implementation of the proposed project and comply with permit and authorization conditions.
	CM-iii	Select, implement, monitor, and maintain BMPs to control erosion and sediment, reduce spills and pollution, and provide habitat protection. BMPs must meet, at a minimum, the WDOE 2005 Stormwater Management Manual for Western Washington. http://www.ecy.wa.gov/programs/wq/stormwater/manual.html
	CM-iv	Select, implement, monitor, and maintain BMPs consistent with Regional Road Maintenance – Endangered Species Act – Program Guidelines.
	CM-v	No disposal of construction materials or debris can occur in a wetland or floodplain.
	CM-vi	No storage of construction materials or debris can occur in a wetland.
	CM-vii	No storage of construction materials or debris can occur in a floodplain during "Flood Season" (check with local Floodplain Administrator for Flood Season).
	CM-viii	Limit work to pre-disaster/design limits/footprint.
	CM-ix	No removal of woody vegetation greater than 4 inches dbh will occur.
	CM-xx	Activities within suitable murrelet nesting habitat that produce sound levels above 92 dBA[1,2] and are conducted between April 1 and September 15 (nesting season) are not covered by this PBA and require a separate consultation with FWS.
	CM-xxi	Activities that produce sound greater than ambient levels, are less 92 dBA, and are within 33 ft of suitable murrelet nesting habitat from April 1 through September 15 (nesting season) are not covered by this PBA and require a separate consultation with FWS.
	CM-xxii	Activities within suitable northern spotted owl nesting habitat that produce sound levels above 92 dBA and are conducted from March 1 through July 15 (early nesting season) are not covered in this PBA and require a separate consultation with FWS.
	CM-xxiii	Activities that produce sound greater than ambient levels, are less than 92dBA, and are within 66 ft of northern spotted owl suitable habitat from March 1 through July 15 (early nesting season) are not covered in this PBA and require a separate consultation with FWS.

[1] See Appendix 1 for list of anticipated sound pressure levels for various machinery types. Not all machinery listed are anticipated for use in this programmatic, for example, blasting.
[2] Most mechanized equipment will be less than 92 dBA when operated approximately 200 ft from nesting habitat.

Type	CM No.	Conservation Measure Description
Equipment	CM-x	No staging (even temporarily) of construction materials, equipment, tools, buildings, trailers, or restroom facilities within a wetland. No staging (even temporarily) of construction materials, equipment, tools, buildings, trailers, or restroom facilities can occur in a floodplain during "Flood Season" (check with local Floodplain Administrator for Flood Season).
	CM-xi	Use biodegradable vegetable oil in equipment hydraulic systems.
	CM-xii	Equipment shall be stationed on and operate from the top of the bank, bridge, or roadway, or other existing access. No new access points will be created.
	CM-xiii	Machinery and equipment used during work shall be serviced, fueled, and maintained on uplands to prevent contamination to surface waters. Fueling equipment and vehicles will be more than 200 ft away from waters of the state. Exceptions to this requirement are allowed for large cranes, pile drivers, and drill rigs if they cannot be easily moved. Fueling areas shall be provided with adequate spill containment. The PBA Determination Form will provide the site specific information if an exception to the 200 ft buffer is to be implemented.
	CM-xiv	Equipment used for a project shall be free of external petroleum-based products while working around the channel. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities adjacent or over waterbodies.

Table 15. Activity specific conservation measures.

Type	CM No.	Conservation Measure Description
Timing	CM-1	Schedule non-emergency activities and in-water work to abide by the approved work windows for all relevant species.
	CM-2	Work during dry or low-flow periods in freshwater and low tide in marine waters.
BMPs	CM-3	Design repairs consistent with Washington State Aquatic Habitat Guidelines Program – Integrated Streambank Protection Guidelines considering factors including: • Setting/Stream Reach • Roughness Features • Vegetation Diversity
	CM-4	Check with WDFW Biologist to determine whether or not fish are present or likely to be present during the proposed in-water work. Select, implement, and monitor BMPs appropriate for species present.
	CM-5	Implement sound attenuation techniques, such as bubble curtains and/or sound attenuating wood blocks.
	CM-6	Flood proof structure by: • Designing foundation, piles, and piers to withstand buoyant and lateral forces (including floating debris impacts). • Removing all permanent contents from area created under structure. • Positioning all electrical features above design flood level. • Construct foundation, piers, and piles with non-toxic materials, including paints.
	CM-7	This action shall be covered for no more than once per structure, facility, stream reach, or site during the 5-year span of the PBA.
	CM-8	All culverts conveying fish bearing streams will be designed and constructed in accordance with WDFW's Design of Road Culverts for Fish Passage (Bates et al. 2003) or most current document and related Washington Administrative Code criteria. Culverts must be designed to either meet the "no slope" or the "stream simulation" model design, whichever is most appropriate.
	CM-9	In-water work will only occur within freshwater.
	CM-10	All disturbed areas shall be revegetated or protected from erosion using other BMPs. Within the first planting season, the banks, including riprap areas, shall be revegetated with native or other approved woody species. Vegetative cuttings shall be planted at a maximum interval of 3 ft (on center) and maintained as necessary for 3 years to ensure 80 percent survival.
Materials	CM-11	Use only ACZA treated wood, untreated wood, steel, or cured concrete.
	CM-12	All on-site creosote treated wood products will be removed and replaced with acceptable products (i.e., ACZA treated wood, untreated wood, steel, or cured concrete).
	CM-13	Use clean, washed gravel.
	CM-14	Uncured concrete will not come in contacted with any waterbody.
	CM-15	Riprap shall be clean and durable, free from dirt, sand, clay and rock fines, and shall be installed to withstand the 100-year-flow flood event.

Type	CM No.	Conservation Measure Description
Specific to Project Types	CM-16	Stockpile LWD for later placement at acceptable stream/river projects.
	CM-17	Pick and place LWD into waterbody. Position material so it does not interfere with watercraft maneuvering.
	CM-18	Dispose of material at an upland facility.
	CM-19	Divert flows and dewater work area before beginning work using NMFS and/or FWS Guidelines.
	CM-20	PBA valid for the replacement or repair of up to 100 piles (for NMFS species and habitat – including Act and Magnuson-Stevens Act) and 10 piles (for FWS Act species and habitat) per project or facility, whichever is less. Steel piles cannot be installed using an impact hammer, including proofing.
	CM-21	All on-site creosote treated wood products will be removed and replaced with acceptable products (i.e. ACZA treated wood, untreated wood, steel, or cured concrete).
	CM-22	New/replacement boat ramp planks will be pre-cast cured concrete.
	CM-23	Buoys will be installed so moored vessels will not beach (ground).
	CM-24	Buoys will be installed so anchor line will not drag.
	CM-25	Buoys will be installed so buoys and moored vessels are not located in or near (within 25 ft) vegetated shallows.
	CM-26	In-water impact pile driving (including proofing) may only be used to install concrete and wood piles.
	CM-27	Sediment removal shall be accomplished by starting at the upstream end of the project boundary and working downstream.
	CM-28	Temporary floating work platform (such as barges) are not permitted to anchor or ground in fish spawning areas in freshwater or in eelgrass, kelp, macroalgae, or intertidal wetlands. Anchoring above eelgrassor macroalgae will be kept to a minimum.
	CM-29	Placement of gravel or other substrate will not exceed 25 cy.
	CM-31	The placement of fill within the 100-year floodplain is not included in this PBA.
	CM-32	Gradually remove debris to prevent a sudden release of impounded water.
BMP	CM-33	Work will be restricted to between two hours after sunrise and two hours before sunset during the marbled murrelet nesting season (April 1 through September 15).

Procedures for Using the PBA

The PBA establishes an agency notification requirement for all projects that use the PBA to comply with the Act. All projects that are determined by FEMA to comply with the PBA require the submittal of the "Specific Project Information Form" (SPIF) for PBA related activities to the FWS prior to funding the proposed project. More than one activity proposed under the programmatic may be proposed for a specific project, for example organic and mineral debris removal, in addition to road repair (a total of three activities). For those activities that fully meet the programmatic, we will have up to 15 working days to respond to FEMA regarding the proposed action. The project is approved for funding by FEMA, as proposed, if no response is provided by the FWS within the 15 working days. If additional clarification or information is

requested by the FWS, the above timeframe will be extended for the equivalent number of days needed by FEMA to provide this information. Should we disagree with the findings of FEMA regarding the proposed project and its compliance with the programmatic, including the effect determination, the FWS will contact the FEMA project manager via email or telephone within the above time periods to explain why we do not agree with FEMA's conclusion. FEMA will provide us with the additional information needed to demonstrate that the project is in compliance with the PBA or must submit the project for individual consultation. For any project where there is uncertainty regarding PBA coverage, early coordination with us is recommended. Projects that do not meet the specific description and criteria of the action, including all applicable conservation measures as written in this PBA, may be submitted to the FWS as a reference biological assessment, and so identified in the SPIF. This procedure applies only to those projects that would result in "may affect, not likely to adversely affect" determinations for those species addressed as part of this PBA, and where only minor deviations from the action currently included in the PBA consultation are proposed. The SPIF must clearly identify why the proposed project does not meet the programmatic as described in the PBA. FEMA may propose additional conservation measures, or modify or exclude existing conservation measures specific to the activity under review. Any modification, exclusion, or addition of conservation measures will be stated and explained in the SPIF. The Services' intent is to respond to these consultations within 30 days of receipt; however, the project cannot proceed until written concurrence (including email) has been received from the FWS.

FEMA will meet with the Services at least annually and submit yearly reports over the 5-year lifespan of the PBA. A meeting and report are due 1 year after the date of the signed concurrence of the PBA by NMFS and FWS. The reports will contain a summary of projects funded, any compliance or enforcement issues and resolution, and proposals for revisions to the PBA. Upon reviewing the reports, the Services can elect to request additional information on a case-by-case basis. The PBA may be revised, as necessary, to include additional activities or to add or remove conservation measures.

Emergency Response Notification

CM-i, states that "Emergency Response Notifications" will be provided prior to initiating an emergency action. This notification allows agencies the opportunity to provide technical assistance to the local entities prior to implementing their action. The FWS requests Emergency Response Notification for the following activities:

- **Activity 8 - Revetment Repairs** - all activities.
- **Activity 9 - Road, Sidewalk, and Trail Repairs** - only those actions that include revetment activities.
- **Activity 10 - Bridge and Abutment Repairs** - all actions except bridge approaches and bridge superstructure maintenance and repair.

EFFECTS OF THE PROPOSED ACTION

Based on the information in the cover letter, biological evaluation, and other documents, we have concluded that effects of the proposed action to the above-identified federally listed resources would be insignificant and/or discountable. Therefore, for the reasons identified below, we concur with your determination that the proposed action is "not likely to adversely affect" marbled murrelets, northern spotted owls, bull trout, or bull trout critical habitat.

Marbled Murrelets

- No marbled murrelet nesting habitat will be removed or impacted as a result of the proposed action.
    - Therefore, effects to marbled murrelets due to habitat impacts are anticipated to be discountable.
- The proposed action will occur outside of the marbled murrelet nesting season (April 1 through September 15). If work occurs during the nesting season, disturbances associated with the activities will be at a distance that is not known to result in a measurable modification of breeding, sheltering, or feeding behaviors.
    - Because sound disturbance to marbled murrelets will not be measurable, effects to nesting marbled murrelets are anticipated to be insignificant.
- The proposed action may occur within marine waters. Foraging marbled murrelets may be disturbed due to construction activities. The activities that may affect marbled murrelets in the marine environment include: Activity 3 - Anthropogenic and Animal Debris Removal; Activity 5 - Piling Repair and Replacement; Activity 7 - Recreation Structure Repair; and Activity 8 - Wave and Seawall Repair.
    - Activities that include pile driving are limited to existing structures, no more than 10 piles, and no impact pile driving of steel piles, including proofing. We anticipate that actions requiring the removal, repair, and/or replacement of up to 10 piles will be accomplished within 2 days. Sound pressures generated may result in disturbance of marbled murrelets; however, they are not known to reach levels that may physically harm this species.
    - Work is restricted to between two hours after sunrise and two hours before sunset during the murrelet nesting season (April 1 to September 15). Peak foraging activity occurs shortly after sunrise and just before sunset. Restricting activities to outside of the prime foraging period will reduce the likelihood of interruptions of food deliveries to nestlings. Although we anticipate that some disturbance to foraging marbled murrelets may occur, we the effects will not be measurable with application of the timing restrictions. Therefore, direct effects to marbled murrelets are anticipated to be insignificant.
- Marbled murrelets may be indirectly affected due to impacts to their prey base. Forage fish spawning habitat may occur within the project area. Effects to forage fish may occur

due to construction-related turbidity, exposure to contaminants from machinery and continued impacts to beach-forming processes associated with shoreline protection.

- We anticipate that turbidity generated during pile removal and replacement, the replacement of rocks and concrete walls, and removal of anthropogenic and other waste materials from the marine environment will be localized and of short duration. Because the effects to marbled murrelets due to impacts to their prey base will not be measurable, indirect effects of the proposed action are considered insignificant.
- BMPs are included to preclude the release of chemicals into waterbodies that are used by marbled murrelets and forage fish. Therefore, we anticipate that there is a very low likelihood that contaminants would enter a waterbody due to the proposed action. We anticipate that indirect effects to marbled murrelets due to impacts to their forage as a result of contaminants will not be measurable.
- Maintaining bulkheads and seawalls will preclude the formation of a natural shoreline environment. Bulkhead and seawall repairs are confined to areas that likely have hardened substrate conditions commonly associated with these structures. The repairs are also limited in extent. Additionally, the repairs are only permitted once at the site, facility, or structure over the life of the programmatic. Although effects to forage fish due to prolonging the degraded habitat conditions will occur, these effects will not be measurable due to the small extent of impact and short time duration between failure and repair. Therefore, indirect effects to marbled murrelets due to impacts to their prey base are considered insignificant.

Northern Spotted Owls

- No northern spotted owl nesting, roosting, foraging, or dispersal habitat will be removed or impacted as a result of the proposed action.
  - Therefore, effects to northern spotted owl due to habitat impacts are anticipated to be discountable.
- The proposed action will occur outside of the northern spotted owl nesting season (March 1 through September 30). If work occurs during the nesting season, disturbances associated with the activities will be at a distance that is not known to result in a measurable modification of breeding, sheltering, or feeding behaviors.
  - Therefore, we anticipate that the proposed increase in sound and visual disturbance to northern spotted owls will not be measurable. These effects are anticipated to be insignificant.

Bull Trout

Activity Types 1 and 2: Organic and/or Mineral Debris Removal

- Debris removal and placement will result in increased turbidity and may be conducted during or after the disaster. However, debris removal is conducted when background turbidity levels and stream velocities are high.
    - Due to existing high turbidity conditions within the waterbody, the amount of turbidity created due to lifting and placing material back into the stream is anticipated to be minimal. Therefore, we do not anticipate increased turbidity due to the proposed action to measurably effect bull trout. We anticipate that the effects of increased turbidity will be insignificant.
- Equipment will be stationed on and operate from the top of the bank, bridge, roadway, or other existing access. No new access points will be created and no removal of woody vegetation greater than 4 inches dbh will occur. The use of machinery near and over water could result in accidental release of contaminants (fuel, oils) into the environment.
    - BMPs are included to ensure that contaminants associated with machinery leaks and fueling are incorporated to preclude entry into waterbodies occupied by bull trout. Because only the hydraulic portions of the machinery will be permitted to operate below the OHWM, there is a very low likelihood that contaminants would enter a waterbody due to the proposed action. Therefore, effects to bull trout associated with exposure to contaminants is considered discountable.
- Organic debris will remain in the stream system, unless this would jeopardize downstream in-water structures. LWD will be either returned to the stream or stockpiled for later environmental restoration actions (these actions are not evaluated as part of this programmatic). LWD that is on roadways at least 300 ft from a stream does not require reuse or placement instream. The permanent removal of LWD from the stream segment is limited to one action per structure in bull trout key recovery habitat.
    - Woody debris will be retained within the watershed, though not necessarily within the same stream reach. Additionally, LWD removal is limited to once per structure to limit the loss of this material from the system. Because we anticipate that the proposed action will not measurably affect bull trout due to changes instream habitat and organic content, effects to bull trout associated with organic debris removal are considered insignificant.
- Removal of organic and mineral debris and placement of organic debris may result in disturbance of bull trout that are foraging, migrating, or overwintering.
    - Although bull trout may be disturbed due to in-water work, the duration of this activity is short (typically less than 1 day). Therefore, we do not anticipate that the effects due to disturbance associated with the removal or placement of debris will measurably affect bull trout within foraging, migration, and overwintering areas. Thus, the effects to bull trout are anticipated to be insignificant.

Activity 3: Anthropogenic and Animal Debris Removal

- Anthropogenic and animal debris removal may be conducted during or after the disaster. However, removal will occur when instream conditions are at high velocity and turbid. Activities within the marine environment are likely to occur within the nearshore environment, which also is anticipated to have high turbidity levels at the time the work is performed.
- Equipment will be stationed on and operate from the top of the bank, bridge, roadway, or other existing access.
- No new access points will be created and no live vegetation will be removed.
- The use of machinery near and over water could result in accidental release of contaminants (fuel, oils) into the environment.
    - Although the proposed action may result in an increase in turbidity due to the removal of debris, these actions would occur when water velocity and turbidity is high. Because we do not anticipate that increases in turbidity would measurably affect bull trout or their prey, the effects of increased turbidity are considered insignificant.
    - BMPs are included to ensure that contaminants associated with machinery leaks and fueling will not enter waterbodies occupied by bull trout and their prey. Because there is an extremely low likelihood that contaminants will enter a waterbody due to the proposed action, effects to bull trout or their prey are considered discountable.
- Removal of anthropogenic and animal debris may result in disturbance of bull trout that are foraging, migrating, or overwintering.
    - Although bull trout may be disturbed due to in-water work, the duration of this activity is short (typically less than 1 day). Therefore, we do not anticipate that the effects due to disturbance associated with the removal anthropogenic and animal debris will measurably affect bull trout. Thus, the effects are anticipated to be insignificant.

Activity 4: Spawning Channel Restoration and Gravel Replacement

- Placement of gravels may result in increased turbidity and disturbance within streams used by bull trout. Debris may also need to be removed and the area graded prior to placement of gravels, which may also result in increased turbidity and disturbance.
- Temporary access may be needed, which could result in the removal of trees up to 4 inches dbh. This may affect shading and the development of future large woody debris.
    - Although the proposed action may result in increased turbidity, all work will be conducted during the approved in-water work window when bull trout use is low. If they are present, the amount of turbidity generated is anticipated to be minimal due to the implementation of BMPs. The creation of temporary

access may also result in an increase of turbidity. However, the proposed BMPs, including revegetation, are likely to minimize the effects to an extent that will not result in measurable effects to bull trout. Therefore, we anticipate that the effects due to increased turbidity that may result due to the proposed action are insignificant to bull trout.

- The proposed activity may result in disturbance to bull trout during foraging, migration, and overwintering. No work is proposed within bull trout spawning and rearing habitat. Due to the inclusion of the timing window and limited work proposed, we do not anticipate that bull trout would be measurably affected due to the proposed action. Therefore, the effects of spawning gravel placement are considered insignificant.
- Although some vegetation removal is permitted under this activity, no trees over 4 inches dbh will be removed. Trees of this size provide some shade. These areas would be revegetated to provide for future large woody debris. We do not anticipate that the removal of vegetation less than 4 inches dbh would result in a detectable change in water temperature (due to the loss of shade) or future large woody debris as a result of the proposed activity. Because this activity is not anticipated to measurably affect bull trout, effects to bull trout associated with site disturbance are considered insignificant.

Activity 5: Piling Repair and Replacement

- All work will occur after the emergency event, during the approved in-water work window. This will minimize the effects to bull trout; however, bull trout may still be present.
- Impacts associated with pile removal and replacement include increased turbidity and release of contaminants if the pile is treated wood or in a contaminated area.
    - Sediment and turbidity generated during pile removal and installation are anticipated to dissipate to background levels within a relatively short distance of the pile.
    - Although bull trout may be present during the proposed project, due to the minimization measures proposed, increased turbidity and release of contaminants is anticipated to be very localized and to not result in measurable effects to bull trout or their habitat. Therefore, we anticipate that effects to bull trout will be insignificant.
- Concrete or untreated wood piles may be installed using either an impact or vibratory pile driver. Steel piles may only be vibrated in. No more than 10 piles may be installed as part of a proposed action. Disturbance to bull trout or their prey due to increased sound pressure and in-water work may occur due to the installation and removal of piles that meet these installation conditions.
    - Sound pressures generated due to the above activities are not known to result in physical harm or injury to bull trout or other fish. Proposed projects are of short duration (we anticipate less than 3 days based on the number of piles

permitted) and work would occur during the approved in-water work window. Disturbance of bull trout behaviors is anticipated to be minimized due to the limited number of piles installed and the method of installation. Therefore, we do not anticipate that the disturbance levels generated from pile driving and removal would measurably impact bull trout behavior. Therefore, the effects to bull trout due to pile driving and removal would be insignificant.

Activity 7: Recreation Structure Repair

- The repair and replacement of boat ramps will occur during the approved in-water work window. This will minimize potential impacts to bull trout; however, bull trout may still be present.
- The repair and replacement of mooring buoys, and piles, decking, caps, stringers, bracing, and/or connecting hardware associated with floats, piers, and docks may occur. Piling repair must follow the requirements of Activity 5, and will occur during the approved in-water work window. Bull trout may be present during the proposed in-water work.
- The proposed activity may result in disturbance of bull trout that are foraging, migrating, or overwintering.
    - Although bull trout may be disturbed by activities that are conducted below the OHWM, the duration is expected to be short and the effects are localized. In-water work is not expected to take more than 3 days. Because we do not anticipate disturbance associated with the removal and placement of these structures to measurably affect bull trout, the effects of this action are considered insignificant.
- Equipment will be stationed on and operate from the top of the bank, bridge, or roadway, or other existing access.
- No new access points will be created and no live vegetation removal is proposed.
- The use of machinery near and over water could result in accidental release of contaminants (fuel, oils) into the aquatic environment.
    - BMPs are included to ensure that contaminants associated with machinery leaks and fueling will not enter waterbodies occupied by bull trout. Because there is an extremely low likelihood that contaminants will enter a waterbody due to the proposed action, effects to bull trout associated with exposure to contaminants is considered discountable.
- The repair and replacement of boat ramps may result in increased turbidity.
    - BMPs are included to ensure that turbidity associated with the proposed construction is minimized.
    - The proposed work will occur during the approved in-water work windows, when bull trout are less likely to be present.

- Although a few individuals may be in the area during the approved work window, effects to bull trout due to elevated levels of turbidity are not expected to be measurable because the timing of the proposed action and the use of BMPs will significantly reduce turbidity. Therefore, direct effects are considered insignificant.

- The repair and replacement of floats, piers, and docks would extend the longevity of overwater structures in freshwater and marine habitats. Their presence may affect the growth of aquatic vegetation.
    - Structures may not be increased in size and decking of new rebuilt structures must be grated. Although the proposed activity will continue to result in shading of the aquatic environment, we do not anticipate that the effects will be measurable to bull trout. There may be some small improvement of conditions with the grating of new rebuilt structures. We anticipate that the effects to bull trout will be insignificant.

- Mooring buoys may be repaired and replaced. Additionally, potential impacts to eel grass and macroalgae may occur if buoys and moored vessels are located over vegetated shallows. Eelgrass and macroalgae are important forage fish spawning and rearing habitat.
    - The proposed action requires that buoys be installed such that they and moored vessels are located at least 25 ft from vegetated shallows, including eelgrass. A buffer of 25 ft is anticipated to minimize the effects to eelgrass such that impacts to forage fish are minimized. Based on the implementation of the distance buffer to aquatic vegetation, we do not anticipate effects to bull trout due to impacts to their prey base to be measurable. Therefore, indirect effects to bull trout via their prey are considered insignificant.

Activity 8: Wave and Seawall Repair

- The proposed action would prevent natural marine shoreline functions in areas that are used seasonally by bull trout for foraging and migration. Bulkheads and seawalls impact beach-forming processes such that forage fish spawning habitat is reduced or lost. This may result in negative impacts to bull trout via their prey base.
    - The proposed action will preclude the formation of a natural shoreline environment. Bulkhead and seawall repairs are confined to areas that likely already have hardened substrate conditions commonly associated with these structures. The repairs are also limited in extent. Additionally, the repairs are only permitted once at the site, facility, or structure over the life of the programmatic. Although effects to forage fish due to prolonging the degraded habitat conditions will occur, these effects will not be measurable due to the small extent of impact and short time duration between failure and repair. Therefore, indirect effects to bull trout due to impacts to their prey base are considered insignificant.

- The proposed revetment work may result in increased turbidity during construction.
- Equipment shall be stationed on and operate from the top of the bank, bridge, or roadway, or other existing access.
- No new access points will be created and no live vegetation removal is proposed.
- The use of machinery near and over water could result in accidental release of contaminants (fuel, oils) that could enter the marine or shoreline environment.
    - The proposed activity will occur after the disaster, in the dry, and during low tide. Because no work will be conducted in water, we do not anticipate a measurable increase in turbidity. Therefore, effects to bull trout from turbidity are considered insignificant.
    - BMPs are included to ensure that contaminants will not enter waterbodies occupied by bull trout. Because there is a very low likelihood that water quality will be impacted by contaminants, effects from the proposed action to bull trout are considered discountable.

Activity 9: Revetment Repair

- The proposed action would result in continuing to prevent the function of natural floodplain functions within bull trout habitat. Hardened banks preclude the formation of natural meanders, creation of side channel habitat, and limit the development of riparian habitat.
    - Although the proposed action will preclude the attainment of natural floodplain functions by maintaining bank stabilization features, the repairs will be conducted in areas that were previously armored, are limited in extent, and are only permitted once at the site, facility, or structure over the life of the programmatic. Although maintaining degraded streambank conditions will preclude attainment of natural functions, the proposed action is not expected to result in measurable effects or significant impairment of behavior or use of the area by bull trout because of the condition of the site prior to repair (still hardened) and limited duration between failure and repair. Thus, the effects are considered to be insignificant.
- The proposed revetment work may result in increased turbidity during construction.
- Equipment will be stationed on and operate from the top of the bank, bridge, or roadway, or other existing access.
- No new access points will be created and no woody vegetation over 4 inches dbh will be removed.
- The use of machinery near and over water could result in accidental release of contaminants (fuel, oils) into the environment.
    - If repairs are conducted during high water, the amount of turbidity associated with placement of armor rock is not expected to be measurable above background levels. Repairs that are conducted during the approved in-water

work window will be done during low flow conditions, thus limiting the extent and duration of construction-related turbidity and likelihood of exposure to bull trout. Although a few individuals may be in the area during the approved work window, effects to bull trout due to elevated levels of turbidity are not expected to be measurable because the timing of the proposed action and the use of BMPs will significantly reduce turbidity. Therefore, direct effects to bull trout associated with project-related turbidity are considered insignificant.

- BMPs are included to ensure that contaminants will not enter waterbodies occupied by bull trout. Because there is a very low likelihood that water quality will be impacted by contaminants, effects from the proposed action to bull trout are considered discountable.

Activity 10: Road, Sidewalk, and Trail Repairs

- No dewatering or water diversions are permitted in waterbodies that may be used by bull trout.
  - Because bull trout are unlikely to be affected by dewatering and water diversion associated with road, sidewalk, and trail repairs, effects are considered to be discountable to bull trout.
- The proposed action may result in increased turbidity in waterbodies used by bull trout.
  - The activity does not include repairs of eroding banks, sloughing, and/or slide of a road or trail structure adjacent to or in a watercourse when fish are present. So, although turbidity may increase, there is a very low likelihood that bull trout would be affected due to exposure. Therefore, the effects due to turbidity are considered discountable.
- Culverts that are replaced are required to meet fish passage guidelines.
  - Replacement of culverts that are currently fish passage barriers could result in an increase of available habitat for bull trout and other fish that are prey species for bull trout. The potential increase in prey resources and foraging areas is expected to result in beneficial effects to bull trout.
- Bank hardening may be included as part of the proposed action. Please see Activity 9 above for an analysis of these effects.
- The use of machinery near and over water could result in contaminants (fuel, oils) entering the freshwater environment.
  - BMPs are included to ensure that contaminants associated with machinery leaks and fueling will not enter waterbodies occupied by bull trout. Because there is an extremely low likelihood that contaminants will enter a waterbody due to the proposed action, effects to bull trout are considered discountable.

Activity 11: Bridge and Abutment Repairs

- The proposed repair of support piers and footings may not occur within bull trout key recovery habitat.
    - Therefore, the likelihood that bull trout may be directly affected by the repair of support piers and footings is extremely low. Therefore, the direct effects from this action are considered discountable to bull trout.
- The proposed repair and maintenance of bridge superstructure and approaches does not occur within waterbodies, but may occur adjacent to or above habitat used by bull trout. Sediments may enter the adjacent waterbody during the proposed repairs and maintenance.
    - BMPs are included to limit or significantly reduce the likelihood of sediments from entering the aquatic environment. Additionally, work would occur when turbidity levels are still high due to the disaster event, and are unlikely to increase to levels above background that may measurably affect bull trout. Therefore, the effects of increased turbidity are considered insignificant to bull trout.
- The proposed repair of abutments would result in continuing to prevent the function of natural bank within bull trout habitat. Hardened banks preclude the formation of natural meanders, creation of side channel habitat, and limit the development of riparian habitat.
    - Although the proposed action will preclude the attainment of natural functions by maintaining bank stabilization features, the repairs will be conducted in areas that were previously armored, are limited in extent, and are only permitted once at the site, facility, or structure over the life of the programmatic. Although maintaining degraded streambank conditions will preclude attainment of natural functions, the proposed action is not expected to result in measurable effects or significant impairment of behavior or use of the area by bull trout because of the condition of the site prior to repair (still hardened) and limited duration between failure and repair. Thus, the effects are considered insignificant to bull trout.
- The proposed repair of abutments may result in increased turbidity and disturbance, and potentially some loss of in-water habitat. This may affect bull trout and their prey.
    - Although the proposed action may result in an increase in turbidity due to the replacement of riprap, LWD, and other materials within and adjacent to waterbodies, due to the BMPs proposed and limited extent of work proposed, we anticipate any affects to bull trout prey may occur, but not to an extent that measurably impacts bull trout. No excavation is permitted below the OHWM, further reducing the potential for direct and indirect impacts on prey. Therefore, we do not anticipate that increases in turbidity and disturbance would be to an extent that would measurably affect bull trout. The effects to bull trout and their prey are considered insignificant.
- The use of machinery near and over water could result in the accidental release of contaminants (fuel, oils) entering the environment.

- BMPs are included to ensure that contaminants associated with machinery leaks and fueling are incorporated to preclude entry into waterbodies occupied by bull trout prey. Because there is an extremely low likelihood that contaminants will enter a waterbody due to the proposed action, effects to bull trout and indirectly via their prey are considered discountable.

Activity 12: Stormwater System Repairs

- The proposed activity will not occur in waterbodies that are fish bearing. They may occur upstream of fish bearing systems, including streams occupied by bull trout. Turbidity generated during repair, removal, and disposal as part of stormwater system repairs could flow downstream into waterbodies occupied by bull trout and their prey.
    - Although bull trout and their prey may occur downstream of the proposed action, BMPs are included to limit the amount of turbidity that may be released into these waterbodies. We do not anticipate that the levels of turbidity generated due to stormwater system repairs will result in measurable impacts to bull trout or indirectly via their prey. Therefore, the effects to bull trout are considered to be insignificant.

Activity 13: Building Elevation

- Elevation techniques exclude the use of fill material.
- Structures that are within or over waters of the State are excluded from use of the programmatic.
- No removal of woody vegetation greater than 4 inches dbh will occur.
- Construction activities may result in increased turbidity generated that could enter waterbodies used by bull trout or their prey.
    - Although increased turbidity may result due to construction activities associated with the proposed action, implementation of BMPs will significantly reduce the likelihood that these levels will result in measurable effects to bull trout. Additionally, no removal of woody vegetation greater than 4 inches dbh will occur, therefore, changes to bull trout habitat (such as increased water temperature due to loss of shade and LWD) would not be detectable. Therefore, we anticipate that the effects due to increased turbidity or habitat modification from elevating buildings will not be measurable to bull trout. We consider the effects to bull trout to be insignificant.

Activity 14: Building Acquisition and Removal

- The proposed removal of structures is not permitted if they are within bull trout key recovery habitat. However, building removal may occur in adjacent uplands.
- No removal of woody vegetation greater than 4 inches dbh will occur.

- Removal activities may result in increased turbidity generated, that could enter waterbodies used by bull trout or their prey.
    - Although increased turbidity may result due to the removal of structures, if bull trout or their prey are present, the amount of turbidity generated is anticipated to be minimal due to implementation of BMPs. Additionally, no removal of woody vegetation greater than 4 inches dbh will occur, therefore, changes to bull trout habitat (such as increased water temperature due to loss of shading and LWD) would not be detectable. Therefore, we anticipate that the effects due to increased turbidity or habitat modification from building acquisition and removal will not be measurable to bull trout. We consider the effects to be insignificant.

Bull Trout Critical Habitat

There are seven bull trout critical habitat Primary Constituent Elements (PCEs) identified in the freshwater and marine waters of western Washington where the proposed action may be implemented. One PCE (PCE #3: Substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival) occurs within western Washington, but these areas are excluded from use by the programmatic, and will not be discussed further. The PCEs that may be affected by the proposed action are as follows:

PCE #1: Water temperatures ranging from 2 °C to 15 °C.
PCE #2: Complex stream channels.
PCE #4: A natural hydrograph.
PCE #5: Springs, seeps, groundwater sources, and subsurface water.
PCE #6: Migratory corridors with minimal physical, biological, or water quality impediments.
PCE #7: An abundant food source.
PCE #9: Permanent water of sufficient quantity and quality.

Based on the potential effects to the fresh and marine water PCEs, we concur with your "may affect, not likely to adversely affect" determination for designated bull trout critical habitat. We anticipate that the effects to bull trout critical habitat will be insignificant. Our rationale of effects to these PCEs is provided below.

PCE #1: The proposed action does not include any activities that are likely to directly or indirectly alter water temperature, such as the release of heated or cooled water, the extraction or addition of water, or the increase or decrease of water depth. Although some vegetation removal is permitted as part of temporary access for restoring spawning habitat, the size of trees is limited to less than 4 inches dbh. Trees of this size provide some shade. However, these areas are likely to be limited in width and would be revegetated. We do not anticipate that the removal of this vegetation would result in a detectable change in water temperature. Therefore, we anticipate that the proposed action would not measurably affect the function of PCE #1, and the effects are considered insignificant.

PCE #2: The proposed action would not include any activities that would significantly increase or decrease channel complexity in the action area. LWD would be retained in the stream unless it would jeopardize downstream anthropogenic infrastructures downstream (bridges, roads, docks, etc). LWD that cannot be returned to the stream will be stockpiles for later environmental restoration actions. Additionally, the permanent removal of LWD from the stream segment is limited to one action per structure within bull trout critical habitat. No other habitat-forming components would be removed from or adjacent to (less than 300 ft) the stream. Also, the project would have no measurable effect on any existing side channels, pools, undercut banks, or other features in the action area that provide complex habitat for bull trout or their prey species. Although bank hardening is permitted, it will only be conducted in areas that are already armored (the bank to be repaired does not have natural features). Therefore, we anticipate that the proposed action would not measurably affect the function of PCE #2, and the effects are considered insignificant.

PCE #4: The proposed action would not alter the natural or regulated hydrograph of the water body. No water would be added or withdrawn as a direct or indirect result of this project within bull trout key recovery habitat, which includes bull trout critical habitat. Repair of existing impervious surfaces is proposed, but will not result in a net increase as a result of the proposed action. Removal of structures within floodplains would result in the removal of impervious surfaces, which may result in improvements to the natural hydrograph. However, the removal of impervious surfaces may not be discernable at this scale. Therefore, we anticipate that the proposed action would not measurably affect the function of PCE #4, and the effects are considered insignificant.

PCE #5: The proposed actions will not impact springs, seeps, groundwater sources, or surface water due to extraction of water or creation of new impervious surfaces. Repair of existing impervious surfaces is proposed, but will not result in a net increase as a result of the proposed action. Removal of structures within floodplains would result in the removal of impervious surfaces, which may result in improvements to groundwater flows. No new obstructions to groundwater flows are proposed. However, the removal of impervious surfaces may not be discernable at this scale. Therefore, we anticipate that the proposed action would not measurably affect the function of PCE #5, and the effects are considered insignificant.

PCE #6: The proposed project may temporarily impact the migratory corridor as a result of suspended sediment releases and/or in-water disturbance during construction. Construction-related turbidity and disturbance will be short-term and localized and are not expected to preclude bull trout use of the area during or after project implementation. Because the proposed action would not measurably affect the function of migratory corridors, effects to PCE #6 are considered insignificant.

PCE #7: The proposed action may impact the food base of the bull trout through a small reduction of prey individuals as a result of degradation of freshwater and marine habitat during repair and construction activities. Some turbidity may result during construction that effects prey species. Impacts to vegetated shallows (used by bull trout forage fish for spawning) may occur due to the installation of mooring buoys. However, the requirement

of distance and minimum depth buffers for moored vessels and buoys from vegetated shallows significantly reduces the potential impact to this habitat. The proposed action will not result in the removal or alteration of riparian vegetation, other than herbaceous plants, small shrubs, and removal of woody vegetation less than 4 inches dbh. Impacts to terrestrial and/or aquatic vegetation are not expected to have a measureable effect on terrestrial macroinvertebrates or forage fish that could provide food for bull trout. Additionally, spawning habitat restoration may result in improved conditions for bull trout prey. Therefore, we anticipate that the proposed action would not measurably affect the function of PCE #7, and the effects are considered insignificant.

PCE #8: The proposed action may impact water quantity and/or water quality via the introduction of suspended sediments and accidental release of contaminants during construction activities. However, the impacts are not expected to measurably affect the function of PCE #8 due to the inclusion of BMPs, conservation measures, and/or other components of the action. Additionally, many of these emergency activities will occur during conditions when turbidity is high, and any increase in turbidity would be difficult to detect. Therefore, we anticipate that the proposed action would not measurably affect the function of PCE #8, and the effects are considered insignificant.

CONCLUSION

This concludes consultation pursuant to the regulations implementing the Act (50 CFR 402.13). This project should be re-analyzed if new information reveals effects of the action that may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation. The project should also be re-analyzed if the action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation, and/or a new species is listed or critical habitat is designated that may be affected by this project.

If you have any questions about this letter or our joint responsibilities under the Act, please contact Nancy Brennan-Dubbs (360-753-5835) or Martha Jensen (360-753-9000) of this office.

Sincerely,

Martha L. Jensen
for

Ken S. Berg, Manager
Washington Fish and Wildlife Office

cc:
U.S. Army Corps of Engineers, Seattle District (M. Walker)
WDFW, Region 6, Montesano, WA
WDFW, Region 4, Mill Creek, WA
WDOE, Bellevue, WA (R. Padgett)
WDOE, Lacey, WA (L. Ochoa)

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Appendix 1. Maximum sound pressure from equipment in air[3].

Equipment Description	Maximum Sound Pressure Anticipated at 50 ft (dBA)	Equipment Description	Maximum Sound Pressure Anticipated at 50 ft (dBA)	Equipment Description	Maximum Sound Pressure Anticipated at 50 ft (dBA)	Equipment Description	Maximum Sound Pressure Anticipated at 50 ft (dBA)
Generator (<25KVA, VMS signs)	73	Pumps	81	Vibrating Hopper	87	Excavator	97
Refrigerator Unit	73	Dozer	82	Compressor (air)	88	Blasting (mitigated rock fracturing)	98
Flat Bed Truck	74	Generator	82	Concrete Mixer Truck	88	Jackhammer	99
Welder/Torch	74	Horizontal Boring Hydraulic Jack	82	Crane	89	Rock Drill	99
Man Lift	75	Vacuum Street Sweeper	82	Paver	89	Vibratory Pile Driver	101
Pickup Truck	75	Boring Jack Power Unit	83	Backhoe	90	Chain Saw	104
Dump Truck	76	Compactor (ground)	83	Concrete Saw	90	Impact Pile Driver	110
Slurry Plant	78	Gradall Excavator	83	Front End Loader	90		
Drill Rig Truck	79	Warning Horn	83	Heavy Trucks	90		
Rivet Buster/Chipping Gun	79	Auger Drill Rig	84	Mounted Impact Hammer (hoe ram)	90		
Ventilation Fan	79	Scraper	84	Pavement Scarifier	90		
Drum Mixer	80	Tractor	84	Water Jet Deleading	92		
Roller	80	Pneumatic Tools	85	Grader	93		
Slurry Trenching Machine	80	Vacuum Excavator (Vac-truck)	85	Heavy Equipment	96		
Vibratory Concrete Mixer	80	Clam Shovel (dropping)	87	Sand Blasting (single nozzle)	96		
Concrete Pump Truck	81	Grapple (on backhoe)	87	Shears (on backhoe)	96		

[3] From USFWS 2009 in draft.

Literature Cited

USFWS (U.S. Fish and Wildlife Service). 2009. Washington State Department of Transportation Programmatic Biological Assessment for the Western Washington Regions – Biological Opinion. FWS Reference 13410-2007-F-0004. Washington Fish and Wildlife Office, Lacey, WA. DRAFT.